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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,046	08/04/2003	Osamu Nonaka	OOCL-141 (6SI-03S0730)	5303
26479	7590	10/04/2007	EXAMINER	
STRAUB & POKOTYLO 620 TINTON AVENUE BLDG. B, 2ND FLOOR TINTON FALLS, NJ 07724			HENN, TIMOTHY J	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/634,046	NONAKA, OSAMU	
	Examiner	Art Unit	
	Timothy J. Henn	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-5 and 16-20 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species I (Figure 6) corresponding to claims 1-5 and 16-20 in the reply filed on 30 July 2007 is acknowledged. Because applicant did not distinctly and specifically point out any supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claim 6 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 30 July 2007.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-5 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onoda et al. (US 7,071,985) in view of Ito (JP 2000-292684).

[claim 1]

Regarding claim 1, Onoda discloses an image sensing apparatus having a distance measuring unit (Figure 1), comprising: an image sensing element (note that Onoda discloses the use of a "camera" which by definition includes an image sensing element) to form an object image which enters via a photographing optical system

(Figure 5, LENS); a distance measuring unit to measure distances to a plurality of points within a photographing frame using an optical path different from an optical path of the photographing optical lens system (Figure 1, Item 51; Figure 3, Items 10a and 10b; Figure 7; c. 4, ll. 43-56; c. 7, l. 56 - c. 8, l. 53) and a control unit to control the focal point position of the photographing optical system (Figure 1, Item 54). However, Onoda does not disclose a determining unit and control of the focal position based on a distance measurement at a second point and relationship determined by the determining unit.

Ito discloses a camera including a similar AF function to Onoda (Figure 1, Item 5). Ito further discloses that when using this AF function, it is difficult to obtain accurate results at the image pickup plane (Paragraphs 0002-0004) and proposes determining a relationship or "gap" between a first AF function (i.e. phase contrast) and a second AF function (i.e. contrast) and to use this determined "gap" when driving a lens using the first AF function alone (e.g. Paragraphs 0010-0011) to more accurately performing focus adjustment (Paragraph 0130). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a determining unit as described by Ito and to perform control of the focal point position at a second point using a distance measuring result and determined relationship to accurately perform focusing. It is noted that since Onoda teaches being able to change focusing points (e.g. Figure 10), it would be obvious to focus on a second point different from a first point as claimed.

[claim 3]

Regarding claim 3, Onoda discloses a principal object detecting unit to detect a location of a principal object from the plurality of points (Figure 6, Item 102; Figure 8; c. 8, l. 59- c. 9, l. 60).

[claim 4]

Regarding claim 4, Onoda discloses a principal object detection unit which detects a point, at which the distance measuring result indicates a nearest distance, of the plurality of points as the point where the principal object is present (e.g. Figure 8, Figures 12A and 12B; c. 2, ll. 6-26; c. 8, l. 54 - c. 9, l. 60; note that close objects are given priority to far away objects).

[claim 5]

Regarding claim 5, Onoda discloses a distance measuring unit which measures distances to objects present at the plurality of points using a passive method (i.e. phase difference AF; c. 8, ll. 9-34).

[claim 16]

Regarding claim 16, Onoda discloses an image sensing apparatus having a distance measuring unit (Figure 1), comprising: an image sensing element (note that Onoda discloses the use of a "camera" which by definition includes an image sensing element); a photographing optical system to form an object image on an imaging surface of the image sensing element (Figure 5, LENS); a drive unit to change a focal point position of the photographing optical system (Figure 1, Item 56); a distance measuring optical system having an optical path different from an optical path of the photographing optical system (Figure 1, Item 51; Figure 3, Items 12a and 12b; Figure 7;

c. 4, ll. 43-56; c. 7, l. 56 - c. 8, l. 53); and a CPU connected to the drive unit to change a focal point position of the lens (Figure 1, Item 54). However, Onoda does not disclose determining a position error of the photographing optical system with respect to a distance measuring result of the distance measuring unit on the basis of the distance measuring result and a change in contrast of image data as claimed.

Ito discloses a camera including a similar AF function to Onoda (Figure 1, Item 5). Ito further discloses that when using this AF function, it is difficult to obtain accurate results at the image pickup plane (Paragraphs 0002-0004) and proposes determining a position error or "gap" on the basis of a first AF function (i.e. phase contrast/distance measuring) and a second AF function (i.e. contrast) and to use this determined "gap" when driving a lens using the first AF function alone (e.g. Paragraphs 0010-0011) to more accurately performing focus adjustment (Paragraph 0130). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a focus control as taught by Ito including determination of a position error to accurately perform focusing. Ito discloses determining a contrast of captured images to determine a proper focus amount by using an image processor (Figure 1, Item 25; Paragraph 0082), Ito further discloses that this image processor corrects image data and outputs it to an image compressing circuit or display (Figure 1; Paragraph 0026). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an image processor to process image data from the image sensing element to determine contrast and prepare images for compression and

display.

[claim 17]

Regarding claim 17, Onoda discloses a distance measuring unit which measures the distance by detecting an imaging signal of an object at the specific point (e.g. Figure 7; Figures 12A and 12B; c. 7, l. 56 - c. 8, l. 53).

[claim 18]

Regarding claim 18, Onoda discloses a measuring unit which measures distances of a plurality of specific points (e.g. Figures 12A and 12B; Figure 7; i.e. each grid unit can be considered to be a "specific point" of the distance measuring unit). Ito discloses that the position error can be determined for all focus points (Paragraph 0062), therefore since error information for all points is stored, error information for a highest contrast point would be determined as claimed.

[claim 19]

Regarding claim 19, Onoda discloses a method of controlling an image sensing apparatus, which has a measuring unit to measure an object distance via a distance measuring optical system different from an optical path of a photographing optical system (Figures 1-5), comprising: measuring an object distance at a specific point of an object field via the distance measuring optical system (Figure 7, Figures 12A and 12B; c. 7, l. 56 - c. 8, l. 53). However, Onoda does not disclose searching for a highest-contrast lens position and calculating position error as claimed.

Ito discloses a camera including a similar AF function to Onoda (Figure 1, Item 5). Ito further discloses that when using this AF function, it is difficult to obtain accurate

results at the image pickup plane (Paragraphs 0002-0004) and proposes determining a position error or "gap" on the basis of a first AF function (i.e. phase contrast/distance measuring) and a second AF function (i.e. contrast; contrast type AF operates by searching for a position of highest contrast while moving a lens; Figure 9) and to use this determined "gap" when driving a lens using the first AF function alone (e.g. Paragraphs 0010-0011) to more accurately performing focus adjustment (Paragraph 0130). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to search for a highest contrast lens position (i.e. perform contrast type AF) and to calculate a position error between the phase difference AF and contrast AF as taught by Ito to accurately perform focusing.

[claim 20]

Regarding claim 20, Ito discloses determining a focal point adjustment position of the photographing optical system on the basis of a new object distance measured by the distance measuring unit, and the position error information (e.g. Paragraph 0010).

Allowable Subject Matter

5. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

[claim 2]

While Onoda in view of Ito disclose determining distance information for a plurality of points, the prior art does not teach or fairly suggest an image sensing

apparatus as claimed including a setting unit to set a highest-contrast point as the first point and a nearest distance point as the second point.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- | | | |
|-----|--------|-----------------|
| i. | Nonaka | US 2004/0028401 |
| ii. | Ito | US 6,954,233 |

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Henn whose telephone number is (571) 272-7310. The examiner can normally be reached on M-F 11-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



TJH
9/28/2007